REMARKS

Introductory Comments

Claims 1, 3-12, 44 and 45 were pending in the present application. Claims 1, 11, 44, and 45 have been amended, and claims 46 and 47 have has been added, leaving claims 1, 3-12, and 44-47 for consideration upon entry of the present Amendment. The claims have been amended as explained in the Remarks section. No new matter has been introduced by these amendments. Reconsideration and allowance of the claims is respectfully requested in view of the foregoing amendments and the following remarks.

Claim Amendments

Claims 1, 44, and 45 have been amended to substitute "dilution water" for "water" in clause (b). This amendment is supported by the respective claims as filed.

Claim 11 has been amended to include the weight basis, "based on the total weight of the aqueous sizing composition" as supported by the application as filed on page 13, lines 15-18 ("based on the total weight of the sizing composition", and claim 1 ("aqueous sizing composition").

Claim 44 has been further amended to delete the word "heated".

Applicants are not conceding in this application that the amended claims would not have been patentable without the current amendments. The present claim amendments are intended only to facilitate expeditious allowance of valuable subject matter. Applicants respectfully reserve the right to present and prosecute the original versions of amended claims in one or more continuing applications.

Claims 46 and 47 have been added to further claim the invention. Support for these claims can be found in the application as filed on page 11, line 14 through page 12, line 6.

Declaration

The declaration was characterized as defective because it lacks a reference to the duty to disclose under 37 C.F.R. § 1.56. 06/16/2008 Office Action, page 2, second and third paragraphs.

Applicants are submitting herewith a corrected declaration that includes a reference to the duty to disclose under 37 C.F.R. § 1.56.

Claim Rejections Under 35 U.S.C. § 112, Second Paragraph

Claims 1, 2-12, 44 and 45 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. 06/16/08 Office Action, page 2, last paragraph. In view of the cancellation of claim 2 in Applicants' Restriction Response and Amendment filed 04/04/2008, Applicants' response assumes that the Examiner intended to list the rejected claims as 1, 3-12, 44, and 45.

In particular, the rejection states,

> Claims 1, 44 and 45 recite a first component suspended in water and a second component that can be water. The second water component appears redundant since the first is suspended in water, thus water is already present. Is the second "water" component intended to be additional dilution water added to the water used to suspend the first component, is it intended to be a different kind of water (e.g,-doubly distilled deionized water), or is there some other kind of water contemplated?

06/16/2008 Office Action, page 3, first paragraph.

Applicants have amended claims 1, 44, and 45 to substitute "dilution water" for "water" in clause (b), thereby making clear that the (b) component water is in addition to the component (a) water.

The rejection further states,

> Claim 11 recites that the ASA is present from about 0.001 to about 5 wt percent, but fails to recite the basis for the amount. Is the ASA present from about 0.001 to about 5 wt percent of the entire composition, from about 0.001 to about 5 wt percent of the first component or the second component, or is there some other basis intended?

06/16/2008 Office Action, page 3, second paragraph.

Applicants have amended claim 11 to include the weight basis, "based on the total weight of the aqueous sizing composition" as supported by the application as filed on page 13, lines 15-18 ("based on the total weight of the sizing composition", and claim 1 ("aqueous sizing composition").

The rejection further states,

> Claim 44 recites a heated first component. It is not clear how a first component can be heated in relation to the second component, since both components are included in the composition, which is at a temperature of more than about 40°F. In other words, the first and second components are both at the same temperature, which is the temperature of the composition.

06/16/2008 Office Action, page 3, third paragraph.

Applicants have amended claim 44 to delete the word "heated".

In view of the amendments discussed above, as well as the fact that claims 3-10 and 12 are rejected based solely on their dependence from claim 1, Applicants respectfully request the reconsideration and withdrawal of the rejection of claims 1, 3-12, 44, and 45 under 35 U.S.C. § 112, second paragraph.

Anticipation or Obviousness Rejection over Dilts WO

Claims 1, 3, 4, 6-8, 11, 12, 44 and 45 stand rejected under 35 U.S.C. § 102(b), as allegedly anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over WO 01/88262 of Dilts et al (hereinafter "Dilts WO"). 06/16/08 Office Action, page 4,

second full paragraph. Applicants respectfully traverse this rejection to the extent it may be applicable to the claims as currently amended.

Dilts WO generally describes paper sizing compositions comprised of at least one sizing agent selected from ASA, AKD and rosin where the at least one sizing agent is emulsified in water, at least one emulsion stabilizer, and from about 0.01% to about 15% by weight of at least one hydrophobic substance, based on the total weight of sizing agent present, provided that the hydrophobic substance is not highly alkoxylated. Dilts abstract. Dilts WO describes the preparation of ASA sizing compositions by blending ASA and cationic starch under high shear conditions. Dilts WO, page 22, lines 12-15. Dilts WO describes the preparation of AKD sizing compositions by combining molten AKD and an aqueous cationic starch solution and diluting the resulting composition with water. Dilts WO, page 22, lines 21-27. In Dilts WO Example 1, an ASA sizing emulsion is prepared by a procedure in which a pre-formed "lanolin solution" is added to an aqueous solution of cationic starch while agitating with a laboratory blender. Dilts WO, page 29 line 25 to page 30, line 6. Dilts WO Examples 2-19 are variations on Example 1. Dilts WO, pages 30-41. In all of the working examples of Dilts WO, sizing emulsions are not formed until all components are present.

Applicants respectfully assert that independent claims 1, 44, and 45 are neither anticipated by nor obvious over Dilts because Dilts does not teach or suggest a sizing composition prepared from (a) a first component including an emulsion having an alkenylsuccinic anhydride component containing (i) alkenylsuccinic anhydride particles and (ii) surfactant component; suspended in water; and (b) a (separate) second component selected from the group consisting of non-ionic starches, anionic starches, dilution water, water-soluble anionic vinyl addition polymers, water-soluble neutral polymers, water-soluble condensation polymers, and mixtures thereof.

Anticipation requires that all of the limitations of the claim be found within a single prior art reference. *Scripps Clinic & Research Foundation v. Genentech, Inc.*, 927 F.2d 1565, 1576 (Fed. Cir. 1991). For a rejection under section 102 to be proper, the cited reference must clearly and unequivocally disclose the claimed subject matter

without any need for picking, choosing, and combining various disclosures not directly related to each other by the teachings of the cited reference. *In re Arkley*, 172 USPQ 524, 526 (C.C.P.A. 1972).

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a prima facie case of obviousness. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Establishing a prima facie case of obviousness requires that all limitations of the claim be taught or suggested by the prior art. *See, e.g.*, MPEP 2143.03; *CFMT, Inc. v. Yieldup Intern. Corp.*, 349 F.3d 1333, 1342 (Fed. Cir. 2003); *In re Royka*, 490 F.2d 981, 985 (C.C.P.A. 1974).

Applicants' independent method claims 1 and 44 each recite an aqueous sizing composition comprising: (a) a first component including an emulsion having an alkenylsuccinic anhydride component containing (i) alkenylsuccinic anhydride particles and (ii) surfactant component; suspended in water; and (b) a second component selected from the group consisting of non-ionic starches, anionic starches, dilution water, water-soluble anionic vinyl addition polymers, water-soluble neutral polymers, water-soluble condensation polymers, and mixtures thereof. Independent method claim 45 is similar except that that the sizing agent is alkene ketene dimer instead of alkenylsuccinic anhydride. Applicants respectfully assert that each of these independent claims requires the formation of separate components (a) and (b), and subsequent mixing of (a) and (b) to form the aqueous sizing composition. Dilts WO does not teach or suggest such a procedure. As detailed above in the discussion of Dilts WO, the reference teaches formation of a sizing emulsion only when all components are present. Therefore, Dilts WO cannot anticipate claims 1, 44, and 45, nor can Dilts WO support a prima facie case of obviousness against these claims. Given that claims 3, 4, 6-8, 11, and 12 each depend ultimately from and further limit claim 1, they too are neither anticipated by nor obvious over Dilts WO. Applicants therefore respectfully request the reconsideration and withdrawal of the rejection of claims 1, 3, 4, 6-8, 11, 12, 44, and 45 under 35 U.S.C. § 102(b) as anticipated by or under 35 U.S.C. § 103(a) as unpatentable over Dilts WO.

(Although claims 45 and 46 are new and not subject to the present rejection over Dilts WO, Applicants respectfully note these claims are further patentable over Dilts WO, because Dilts WO does not appear to teach or suggest the surfactant component recited therein.)

Anticipation or Obviousness Rejection over Dilts US

Claims 1, 3, 4, 6-8, 11, 12, 44 and 45 stand rejected under 35 U.S.C. § 102(e), as allegedly anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. Patent No. 6,576,049 to Dilts et al (hereinafter "Dilts US"). 06/16/08 Office Action, page 6, third full paragraph. Applicants respectfully traverse this rejection to the extent it may be applicable to the claims as currently amended.

Dilts US belongs to the same patent family as Dilts WO (which claims priority to Dilts US) and appears to include the same or very similar disclosure. Accordingly, the arguments above in the context of Dilts WO apply to Dilts US as well. Applicants therefore respectfully request the reconsideration and withdrawal of the rejection of claims 1, 3, 4, 6-8, 11, 12, 44, and 45 under 35 U.S.C. § 102(e) as anticipated by or under 35 U.S.C. § 103(a) as unpatentable over Dilts US.

Obviousness Rejection over (Dilts WO or Dilts US) + Chunyu

Claims 5, 10, and 11 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Dilts WO or Dilts US as evidenced by "Alkenyl Succinic Anhydrides (ASA): a Neutral Sizing Agent" of Chunyu (hereinafter "Chunyu"). 06/16/08 Office Action, page 6, last paragraph] Applicants-respectfully traverse this rejection to the extent it may be applicable to the claims as currently amended.

Dilts WO and Dilts US are discussed above.

Chunyu generally describes the use of alkenyl succinic anhydrides as a neutral sizing agent for paper.

Claims 5, 10, and 11 are dependent claims that depend ultimately from claim 1. As discussed above, claim 1 is patentable over Dilts WO or Dilts US. Chunyu, which is

cited for teaching the hydrolysis of ASA, does not change this conclusion. Accordingly, claims 5, 10, and 11 are neither anticipated by nor obvious over Dilts WO or Dilts US as evidenced by Chunyu. Applicants therefore respectfully request the reconsideration and withdrawal of the rejection of claims 5, 10, and 11 under 35 U.S.C. § 103(a) over Dilts WO or Dilts US as evidenced by Chunyu.

Nonstatutory Double Patenting Rejections

Claims 1, 2-12, 44, and 45 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1, 2, 4-13, 46, and 47 of copending U.S. Patent Application Serial No. 10/533,190. 06/16/08 Office Action, page 8, third full paragraph.

Claims 1, 2-12, 44, and 45 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1, 4-11, 30 and 33 of copending U.S. Patent Application Serial No. 10/533,702. 06/16/08 Office Action, paragraph spanning pages 8 and 9.

Applicants thank the Examiner for pointing out the potential obviousness-type double patenting issue between the claims of the present application and those of co-pending Application Nos. 10/533,190 and 10/533,702. In view of the possibility that claims in the cited applications or the present application will be further amended before allowance, Applicants will defer responding to this provisional rejection until claims in the reference applications are allowed, claims in the present application are otherwise allowable, and it is determined whether this provisional rejection becomes an actual rejection.

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance is respectfully requested.

It is believed that all the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not be expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130 maintained by Assignee.

Respectfully submitted,

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